

**Amendments to the Drawings:**

The attached replacement sheets of drawings containing new Figs. 14 and 15 are provided to replace originally filed Figs. 14 and 15.

Attachment: Replacement Sheets.

### **REMARKS**

The specification and the drawings have been amended to correct the fact that the comparator maintained by the controller 21a, and the LED surrounded by the LED segments 28 to 31, as shown in Fig. 15, were given the same reference numeral 32. As such, the LED surrounded by the LED segments 28 to 31 is now identified by reference numeral 32L, as indicated in the amendments to the specification and in the amendments to Figs. 14 and 15 of the drawings.

The Examiner has rejected claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. (US 5,963,194), hereinafter Umeda, in view of Rona et al. (US 5,584,838), hereinafter Rona. After carefully considering the Examiner's rejection, the Applicants have amended independent claims 1, 5, 9, and 10 to correspond to the structure shown in Figs. 8 and 9 of the Applicants' drawings, so as to further define over Umeda and Rona. Specifically, claims 1, 5, 9, and 10 now recite a base that is rotatable about a first axis that vertically passes through the base (the vertical axis indicated by dotted lines in Fig. 8). In addition, the claims now recite that the photoreceptor (optical transceiver) is mounted on the base, the photoreceptor having a light-receiving surface that is rotatable about a second axis (the horizontal axis indicated by dotted lines in Fig. 8) orthogonal to the first axis and to a first optical receiving element (PD\_A), a second optical receiving element (PD\_B), a third optical receiving element (PD\_C), and a fourth receiving element (PD\_D) to receive a transmitted light beam. Moreover, the claims 1, 5, 9, and 10 recite that the first and third elements (PD\_A, PD\_C) are aligned on the surface (of the photoreceptor) in a first direction and are located opposite each other in the first direction, while the second and fourth elements (PD\_B, PD\_D) are aligned on the surface in a second direction parallel to the second axis and orthogonal to the first direction, and are located opposite each other in the second direction with the first and third elements (PD\_A, PD\_C) interposed between the second and fourth elements (PD\_B, PD\_D).

Thus, independent claims 1, 5, 9, and 10 as amended recite that the four optical receiving elements (PD\_A, PD\_B, PD\_C, PD\_D) are arranged

on the light-receiving surface (17) of the photoreceptor (16), such that the first and third elements (PD\_A, PD\_C) are located upwards and downwards respectively. While the second and fourth elements (PD\_B, PD\_D) are located right and left, respectively, as illustrated in the top view of FIG. 9, when the light-receiving surface (17) is in an upright position on the base 16a.

In contrast, Umeda teaches the light receiving portions 5a-5d as being arranged in the same manner as the that identified as Related Art shown in Figs. 2A-5A, and 6 of the Applicants' specification. More particularly, as shown in Fig. 3 and as discussed at column 10, lines 36 to 46 of Umeda, the light receiving portions 5a and 5b are divided toward the X-axis. In other words, Umeda teaches that when two of the four light receiving portions are aligned in the X-axis, the other two receiving portions are also aligned in the X-axis. Additionally, Umeda also teaches that when two of the four light receiving portions are aligned in the Y-axis, the other two receiving portions are also aligned in the Y-axis.

For example, if the first and second directions recited in Applicants' amended claims 1, 5, 9, and 10 correspond to the X and Y axes, respectively, when two of the four optical receiving elements are aligned in the X-axis, the outer two are aligned in the Y-axis, with the former two optical receiving elements being interposed between the latter two optical receiving elements.

Thus, the optical receiving elements of the Applicants' invention and as identified by the claims 1, 5, 9, and 10 are arranged in a completely different manner from that taught by Umeda, which teaches an arrangement that is the same as that identified by the Related Art shown in Figs. 2A-5A, and Fig. 6 of the Applicants' specification. For example, in the first embodiment of the Applicants' invention, the optical receiving elements PD\_A, PD\_B, PD\_C, and PD\_D (the top view of Fig. 9) are shifted by 45 degrees against the counterparts illustrated in Fig. 6 (Related Art), as discussed at page 7, lines 23-25 of the Applicants' specification. Moreover, the claimed display elements, as shown in Fig. 8 of the Applicants' patent application, are arranged in the same manner as the optical receiving elements PD\_A, PD\_B, PD\_C, and PD\_D (the top view of Fig. 9). Thus, the display elements are arranged in the first and second

directions so as to correspond to the optical receiving elements of the photoreceptor, as claimed. With such an arrangement, users of the Applicants' invention can easily know whether the optical axis of a light beam is deviated in the first and/or second directions.

In addition, the display elements 94 to 97 shown in Fig. 11 of Rona are not arranged so as to correspond to the light receiving portions 5a-5d of Umeda, shown in Fig. 3. Moreover, Rona has a particular reason for the arrangements of the display elements 94 to 97 shown in Fig. 11, which is discussed with reference to Fig. 2. Likewise, Umeda also has a particular reason for the arrangements to the light receiving portions 5a-5d shown in Fig. 3, which is also discussed with reference to Figs. 1-3. Therefore, it would not have been obvious to one of ordinary skill in the art to implement the display elements of Rona into the inclination detection apparatus of Umeda.

Thus, because Umeda and Rona do not individually or by their combination teach each and every element of claims 1, 5, 9, and 10, and for the additional reasons provided, the Applicants respectfully request that the rejection of such claims and all claims depending therefrom be withdrawn.

In addition, the Applicants have added new claims 11 and 12, which depend from independent claims 1 and 5 respectively. Specifically, claims 11 and 12 each recite that the base is provided with the display elements, as shown in Fig. 8 of the Applicants' drawings.

In view of the foregoing, it is the Applicants' position that claims 1-12 are in condition for allowance. Reconsideration by the Examiner and the issuance of a formal Notice of Allowance is most earnestly solicited.

If any further issues remain after this amendment, a telephone call to the undersigned would be appreciated.

Respectfully submitted,



Edward G. Greive, Reg. No. 24,726  
Renner, Kenner, Greive, Bobak, Taylor & Weber  
Fourth Floor, First National Tower  
Akron, Ohio 44308-1456  
Telephone: (330) 376-1242  
Attorney for Applicants

January 8, 2007